
EPA REGION IX CONFERENCE CALL

FEBRUARY 08, 2019
SCAQMD

Key Issue #1 Summary

(November 8 Working Group Meeting)

For new sources permitted in RECLAIM, what are the offset obligations as facilities transition out of RECLAIM?

- NSR requirements for RECLAIM facilities
 - Facilities that were permitted after the start of RECLAIM and facilities with emission increases above their starting allocation have ongoing **holding requirements** to hold RTCs equal to their PTE year-to-year
 - Facilities that existed at the start of RECLAIM only have to hold RTCs equal to their PTE for the first year
- NSR obligations for RECLAIM facilities after transitioning
 - Rule 2005 only has an ongoing holding requirement for some facilities
 - SIP commitment can be demonstrated programmatically
 - RECLAIM NSR does not have an ongoing **offsetting requirement**
 - Rule 2004 requirement to have sufficient RTCs for reconciliation of actual emissions is not an NSR requirement and will not be an ongoing obligation after RECLAIM

**OFFSETTING
REQUIREMENTS**

Key Issue #2

Key Issue #1

For new sources that are permitted in RECLAIM, what are the offset obligations as facilities transition out of RECLAIM?

Key Issue #2

When and how will a pre-modification PTE be calculated to determine if an emission increase occurs that triggers NSR requirements after facilities transition out of RECLAIM?

Key Issue #3

How will the SCAQMD ensure that sufficient offsets are available to satisfy NSR requirements

Permitting Under Regulation XIII

- Regulation XIII is SIP-approved - Applies to the installation of any new source and to the modification of any existing source
- All new and modified permitted sources are reviewed under Regulation XIII
 - Regulation XIII acts as the “gatekeeper” to determine if a permit action results in an emission increase (NSR event)
 - Any emission increase must be offset (e.g., ERCs)
- BACT is always required for new sources
- BACT and modeling are required for modified sources with a net emission increase

Background Overview

- Regulation XIII will apply to the first modification post-RECLAIM
 - The transition of a facility from RECLAIM to command-and-control is not a NSR event
- Pre-modification Potential to Emit (PTE) needs to be calculated in lbs/day for applicability determination
 - Hierarchy of methodologies will be used to calculate
 - Pre-NSR equipment based on existing Regulation XIII approach (2-year average)

Purpose of the PTE*

- A PTE is applied to an individual piece of equipment
- Purpose of calculating a pre-modification PTE is to determine if modification results in an emission increase; if so:
 - BACT;
 - Offset amount; and
 - Modeling
- PTEs are generally calculated at the time of permitting
- PTEs do not represent actual emissions
- If a post-modification PTE is established in a permit, equipment must operate below that post-modification PTE

*PTE refers to NO_x PTE unless otherwise specified

Framing the Issue – Key Issue #2

- Under Regulation XIII, a source's existing PTE is evaluated to determine any increase in emissions due to a modification
 - This is the pre-modification PTE
 - New sources have a pre-modification PTE of zero
- Pre-modification PTEs are subtracted from new permit PTEs to determine an emission increase:

Post-modification PTE – Pre-modification PTE = Emission Increase?

- An emission increase would occur if:

Post-modification PTE > Pre-modification PTE

Framing the Issue (continued)

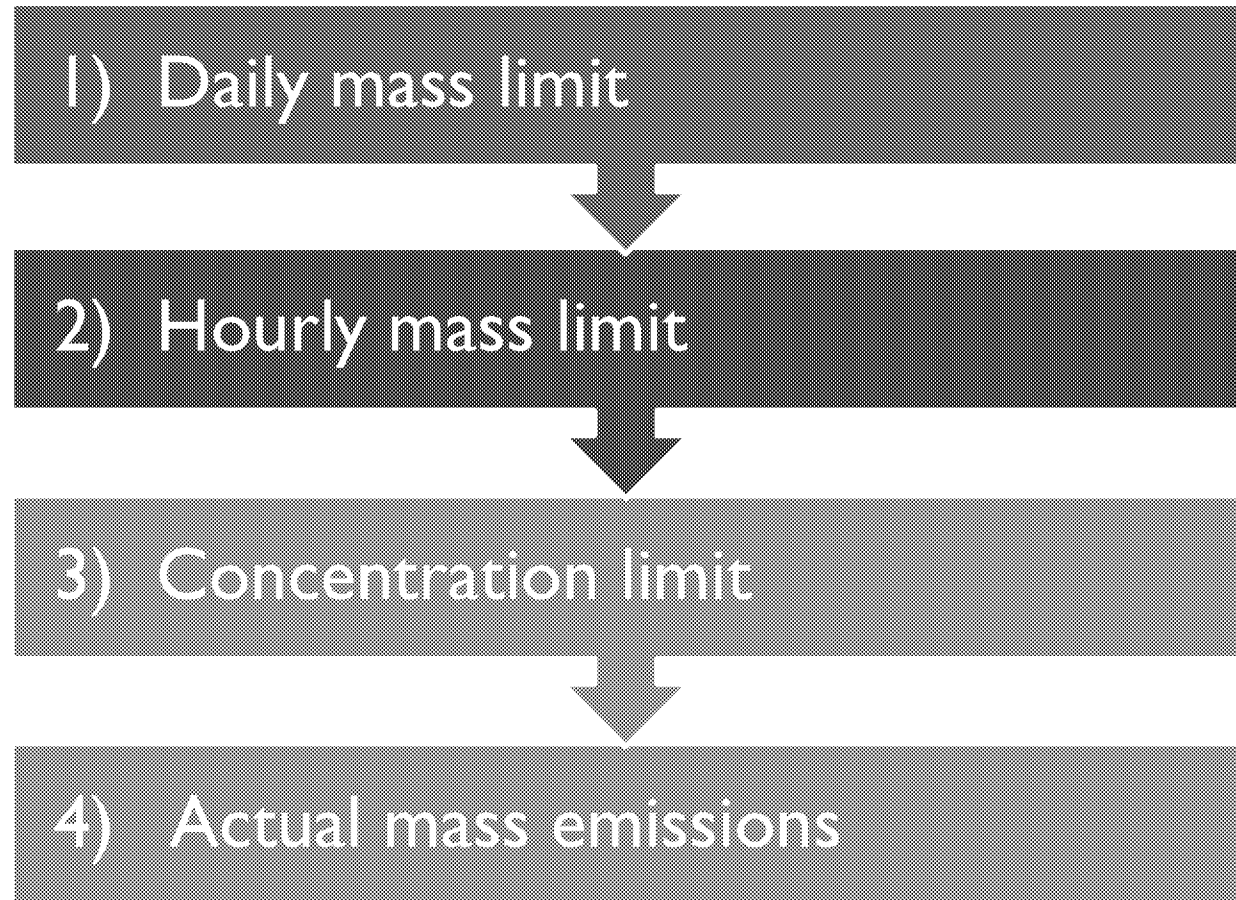
- Regulation XIII calculates emission increases with PTEs in lbs/day
- Not all sources that exit RECLAIM have pre-modification PTEs in lbs/day
- To apply Regulation XIII at time of modification, pre-modification PTEs need to be in lbs/day
 - There are different permit conditions that do not directly translate into lbs/day

Various Permit Conditions for Sources in RECLAIM

Issuance of Permit	What is the pre-modification PTE?	Is New Methodology Needed?
Permits issued Pre-1976 (Pre-Regulation XIII NSR)	No PTE (Never been subject to NSR)	No, use existing Regulation XIII methodology
Permits issued 1976-1993 (Post-NSR to Pre-RECLAIM)	PTE in lbs/day	No, PTE already in lbs/day
Permits issued Post 1993 (During RECLAIM)	PTE in lbs/hr	Need methodology to convert pre-modification PTE to lbs/day
Permits issued Post 1976 and NOx PTE removed during RECLAIM	No specified NOx PTE (some cases)	Need methodology to calculate pre-modification PTE to lbs/day

Calculating PTEs Overview

- Hierarchy of methodologies to calculate pre-modification PTE in lbs/day depends on the existing limit on permit



Baseline Calculation Examples

Permit contains hourly mass limit

Hourly mass rate: 5 lbs/hr

Operational limitation: 8 hours/day

Use hourly mass rate, if no operational limitation, multiply by 24 hours per day

$$5 \frac{\text{lbs}}{\text{hr}} \times 24 \frac{\text{hr}}{\text{day}} = 120 \frac{\text{lbs}}{\text{day}}$$

Use hourly mass rate and multiply by operational limitation

$$5 \frac{\text{lbs}}{\text{hr}} \times 8 \frac{\text{hr}}{\text{day}} = 40 \frac{\text{lbs}}{\text{day}}$$

Permits without PTEs

No PTE
(post- NSR)

- Permits that do not have NOx PTE may have other conditions that allow a pre-modification PTE to be calculated
- Large source and process unit permits may only have a NOx concentration limit
- Major sources may not have a concentration limit but have actual emission rates
 - Mass rates based on continuous emissions monitoring systems (CEMS) data

Baseline Calculation Examples

Permit contains NOx concentration limit

NOx concentration limit: 9 ppmv (Use the most stringent concentration limit)

Operational limitation: 140 MMBTU/day

Unit capacity: 10 MMBTU/hr

Convert NOx concentration limit to lbs/hr

$$9 \frac{\text{parts}}{10^6} \times 10 \frac{\text{MMBTU}}{\text{hr}} \times 8710 \frac{\text{dscf}}{\text{MMBTU}} \times \frac{20.9}{20.9-3.0} \times \frac{46 \text{ lbs NOx}}{385 \text{ scf}} = 0.11 \frac{\text{lbs}}{\text{hr}}$$

Calculate the maximum number of hours per day from operational limitation

$$140 \frac{\text{MMBTU}}{\text{day}} \div 10 \frac{\text{MMBTU}}{\text{hr}} = 14 \frac{\text{hr}}{\text{day}}$$

Multiply mass rate by maximum number of hours per day

$$0.11 \frac{\text{lbs}}{\text{hr}} \times 14 \frac{\text{hr}}{\text{day}} = 1.54 \frac{\text{lbs}}{\text{day}}$$

Baseline Calculation Examples *(continued)*

Permit contains NOx concentration limit

NOx concentration limit: 11 ppmv (Use the most stringent concentration limit)

Operational limitation: 5 lbs/day CO

Throughput limit: 0.5 lbs/hr CO

Convert NOx concentration limit to lbs/hr	$11 \frac{\text{parts}}{10^6} \times 10 \frac{\text{MMBTU}}{\text{hr}} \times 8710 \frac{\text{dscf}}{\text{MMBTU}} \times \frac{20.9}{20.9-3.0} \times \frac{46 \text{ lbs NOx}}{385 \text{ scf}} = 0.134 \frac{\text{lbs}}{\text{hr}}$
Calculate the maximum number of hours per day from CO operational limitation	$5 \frac{\text{lbs}}{\text{day}} \div 0.5 \frac{\text{lbs}}{\text{hr}} = 10 \frac{\text{hr}}{\text{day}}$
Multiply mass rate by maximum number of hours per day	$0.134 \frac{\text{lbs}}{\text{hr}} \times 10 \frac{\text{hr}}{\text{day}} = 1.34 \frac{\text{lbs}}{\text{day}}$

Baseline Calculation Examples *(continued)*

Permit does not have a concentration limit for any pollutant, but is monitored by CEMS

CEMS data (maximum hourly mass emissions rate at 50% capacity): 3 lbs/hr

Operational limitation: 12 hours/day

Maximum hourly PTE, pursuant to
Rule 2005
(Prorating to maximum rated capacity)

$$3 \frac{\text{lbs}}{\text{hr}} \times \frac{100\%}{50\%} = 6 \frac{\text{lbs}}{\text{hr}}$$

Multiply maximum hourly emissions
rate prorated to maximum rated
capacity by hours of operation per day

$$6 \frac{\text{lbs}}{\text{hr}} \times 12 \frac{\text{hr}}{\text{day}} = 72 \frac{\text{lbs}}{\text{day}}$$